

EXHIBIT

F



ADDENDUM NO. 1

May 29, 1998

Kohn Pedersen Fox

Associates PC

Architects & Planning

Consultants

**BARUCH ACADEMIC COMPLEX - SITE B
CONTRACT #16 - GENERAL CONSTRUCTION #2**

DA # 6500 1802 2178

TO ALL BIDDERS:

This ADDENDUM is hereby included in and made part of the Contract whether or not attached thereto. All requirements of the original Specifications and Drawings shall remain in force except as noted by this ADDENDUM Number 1.

THE PURPOSE OF THIS ADDENDUM IS TO CHANGE THE FOLLOWING ITEMS:

1.0 SECTION I - NOTICE TO BIDDERS

- 1.1 *The bid date has been extended to 2:00 PM on June 18, 1998. Any bids received after that time will not be considered.*

2.0 POOL SURVEY

- 2.1 Please find enclosed site survey at the swimming pool area as dated 3/25/98, included for information.

3.0 GENERAL

All flooring at classroom corridors, floors 3 through 13, shall be changed to Vinyl Composite Tile (FL-1), with resilient base (RB-1). Refer to Exhibit 1 for classroom corridor room numbers as listed in Section 01030 (Page 3).

4.0 SECTION IV - FORM OF BID

The list of Alternates is to be omitted and substituted with revised list of Alternates attached herewith.

5.0 SECTION XIV - SCOPE OF WORK

- 5.1 Section 2.A (Work included)
Revise the following items:

3. Miscellaneous steel including but not limited to catwalks, public stair framing in

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lobby and atria (Public Stair #1 through Public Stair #8) interior masonry support framing, shelf angles for interior brick veneer, nosing angles, operable partition supports, vanity supports, steel embedded in concrete topping slabs provided by this contract, tracks at trash container/compactor, framing for atrium lighting system, theater grid, hoist beam at scene shop, and other items as designated.

Provide all metal pan stair construction including but not limited to stringers, railings and supports for Stair #16 (fire stair).

8. ... and relocation **and wiring** of streetlights and fire alarm pull station.

5.2 Section 2.A (Work included)
Add the following items:

- 95. **Provide allowance for 25,000 SF of concrete flash patching at floor slabs.**
- 96. **Provide allowance for 10 additional concrete equipment pads at 50 SF each and 4" high.**
- 97. **Provide allowance for painting 25,000 SF of wall surface, with 2 coats each plus primer.**
- 98. **Provide allowance for spackling 25,000 SF of wall surface.**
- 99. **Patching all spray applied fireproofing, damaged as a result of work performed under this contract.**
- 100. **Allow for additional 15,000 SF of spray applied fireproofing.**
- 101. **Wood toe barre with supporting assembly.**
- 102. **Steel support rigging at Recital Hall.**
- 103. **Painted aluminum ceiling profiles at Public Stair #3.**
- 104. **Wood closet doors with stainless steel hardware.**
- 105. **Painted metal filler panels at fin tube enclosures at all exterior sloped window and curtain wall locations on floors 3 through 14.**
- 106. **Tray slide at food service.**

5.3 Revise the following items under work not included (Section 3):

- 10. Delete item in its entirety.
- 60. Plumbing work **except at pool area. Pool deck drainage shall be provided by others.**

5.4 Add the following to work not included (Section 3):

72. Electrical work, except at pool area and street lighting.

6.0 SECTION XVI - TECHNICAL SPECIFICATIONS

6.1 The following additional specifications are attached and are part of this contract:

- 02517 BITUMINOUS SET EXTERIOR PAVERS
- 05516 METAL PAN STAIRS (GC #2)
- 07256 SPRAY APPLIED FIREPROOFING (Repairs by GC #2)

6.2 Delete the following sections and substitute with new sections attached herewith:

- Section 01030 - Alternates
- Section 03303 - Cast-in-place Concrete - Curbs, Pads and Topping
- Section 07210 - Building Insulation
- Section 09550 - Wood Flooring

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- 6.3 Delete the following sections in their entirety:
- Section 02518 - Sand Set Pavers
- 6.4 SECTION 05700 - ORNAMENTAL METAL
- Paragraph 2.02.C - Revise item 7 as follows:
7. Ribbed column enclosure sheets (SS-3). ***See detail 2 on sheet A-430 for profile.***
- Paragraph 2.05.B - Revise item SS-3 as follows:
- SS-3 Profiled - ***See detail 2 on sheet A-430 for profile.***
- 6.5 SECTION 08960 - INTERIOR ALUMINUM WINDOW WALLS
- Paragraph 1.01.B.2 - Revise item b as follows:
- b. Spandrels with shadow boxes in custom color, ***provided at all glazed spandrel conditions.***
- Paragraph 2.01.A - Revise item 3 as follows:
3. Principal-formed aluminum sheet members shall have a minimum wall thickness of 1/8", ***including all aluminum window sills and aluminum floor bases. Provide thicker sheet members where designated on drawings.***
- 6.6 SECTION 09111 - STEEL STUD FRAMING (GC #2)
- Paragraph 1.04.B. - Add the following to the end of item 4 as follows:
- The Contractor is responsible for providing additional framing, which may be determined as a result of the calculations.***
- 6.7 SECTION 09251 - GYPSUM DRYWALL
- Paragraph 1.01.B - Add item 10 as follows:
10. ***Provide allowance for spackling 25,000 SF of wall surface.***
- 6.8 SECTION 09251 - GYPSUM DRYWALL
- Paragraph 3.10.E - Add the following to the end of item 4:
- In addition to the joint compound and taping required for the contractor's work as specified in the documents, the contractor shall include in its bid the cost for an additional 25,000 SF of final finish coat application, including final sanding. This total quantity of additional finish coat application shall be comprised of separate areas randomly located throughout the building in individual quantities no greater than 200 SF. The finish shall comply to a level 5 finish as described herein. This additional square footage of finish coat application shall be used at the sole discretion of the Owner. An adjustment shall be made to the contract amount via a credit change order for any unused portion of this square footage allowance.***

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6.9 SECTION 09410 - PRECAST TERRAZZO

Paragraph 2.01 - Revise items C.1 and C.2 as follows:

C. **Size 1 and 2** Marble Chips **and up to 20% of Mother of Pearl Chips**(refer to Section 09420 - Epoxy Terrazzo for colors)

1. The precast elements shall match the epoxy terrazzo floors in **mother of pearl and** marble chips and gloss, color, size, disbursement, matrix color, character and appearance as determined by the Architect from the reviewed submittals.
2. Each grade of **1 and 2 size** chips shall be uniform in size and have a minimum of flats and flakes, and shall contain no deleterious or foreign matter. The chips shall have an abrasive hardness of Ha 10 minimum when tested in accordance with ASTM C-241. Twenty-four hour absorption rate shall not exceed 0.75%, and dust content shall be less than 1% by weight.

Paragraph 2.02 - Revise item D as follows:

D. Charge and mix marble **and mother of pearl** chips, portland cement and color pigment. Add water and mix to a uniform workable consistency.

Paragraph 2.03.C - Revise items 1 and 4 as follows:

1. Rough grading: Grind with **24** or finer grit stones or with comparable diamond plates. Follow initial grind with **120** grit stones.
4. Fine grinding: Grind with **120** grit stones until all grout is removed from surface. Upon completion terrazzo shall show a minimum of 70% to 75% of marble **and mother of pearl** chips.

6.10 SECTION 09420 - EPOXY TERRAZZO

Paragraph 1.01.B - Revise item 6 and add item 7 as follows:

6. Alternate for epoxy terrazzo flooring and bases at Office Corridors on Floors 3-13.
7. **Alternate for epoxy terrazzo flooring and bases at Classroom Corridors on Floors 3-13.**

Paragraph 1.04.A - Revise sample S3 as follows:

Item No.	Quan.	Size	Description
S3	5	6" long	Marble chips and up to 20% mother of pearl chips (prior to making S1 samples)

Paragraph 1.04.A - Revise certificate C2 as follows:

Item No.	Description	Standards
C2	Marble chips and mother of pearl chips	As specified

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Paragraph 1.04.C - Revise item 1 as follows:

1. Provide color selection charts for marble chips *and mother of pearl chips*.

Paragraph 2.02.D - Revise items 2 and 3 as follows:

2. Each grade of chips shall be uniform in size and have a minimum of flats and flakes, and shall contain no deleterious or foreign matter. The chips shall have an abrasion hardness of Ha 10 minimum when tested in accordance with ASTM C-241. Twenty-four hour absorption rate shall not exceed 0.75%, and dust content shall be less than 1% by weight. **80% marble chips and 20% mother of pearl chips**

3. The following matrix colors have been selected by the Architect:

- TZ-1 Charcoal, TZ-2, Green, and TZ-3 Cream.

The Architect will be selecting marble chips in **a few** color categories. Chip Size No. **1 and 2**, with **20 percent** of mother-of-pearl, resinous chips and as selected.

6.11 SECTION 09900 - PAINTING

Paragraph 1.01.B - Add items 5 through 10 as follows:

5. **Interior atrium exposed steel.**
6. **Atrium window convactor enclosures.**
7. **Typical fin tube enclosures.**
8. **Loading dock door.**
9. **Loading dock wheel guards and corner guards.**
10. **Provide allowance for painting 25,000 SF of wall surface, primer plus 2 finish coats each.**

6.12 SECTION 09900 - PAINTING

Paragraph 3.03 - Add item W as follows:

- W. **In addition to the requirements specified in the contract documents, the contractor shall include in its bid the cost for an additional 25,000 SF of painting. The total quantity of additional painting shall be comprised of separate areas randomly located throughout the building in individual quantities no greater than 200 SF. A primer plus two coats shall be applied at each location complying to a PT-4 finish as specified herein. This additional square footage of painting shall be used at the sole discretion and upon direction of the Owner. An adjustment shall be made to the contract amount via a credit change order for any unused portion of this square footage allowance.**

6.13 FLASH PATCHING

The following information is to be added to specification section 09650 (Resilient Flooring). It shall be inserted as paragraph 3.02.E.

E. Tolerances (Flash Patching)

1. Hold allowable variations, from the straight of the resilient flooring areas within the following tolerances:
 - a. In any six feet.....1/8 inch

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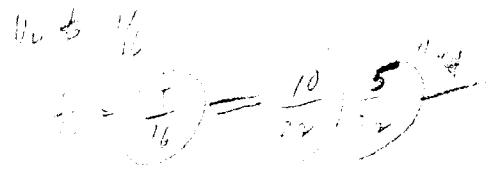
- b. In any three feet..... 1/16 inch

This trade subcontractor shall be prepared to flash patch the encountered concrete floor slab from 1/4 inch to 1/16 inch in three feet.

7.0 DRAWINGS

- 7.1 The following drawings are to be omitted and substituted with revised drawings attached herewith:

A-415 FIRE STAIR DETAILS
A-620 ATRIUM WALL DETAILS
A-621 ATRIUM WALL DETAILS
A-622 ATRIUM WALL DETAILS
S-104B GROUND FLOOR CURB LAYOUT



7.2 Ground Floor Exterior Plazas

The paving system at the north and southeast exterior plazas has been revised to a bituminous set paving systems. Please find attached herewith drawing SK- 973 which shows a typical system detail which shall apply at all conditions.

- 7.4 The following sketches are to be added as attached herewith:

SK-973 through SK-1275

8.0 PRE BID CONFERENCE

Please find attached meeting report from the General Construction #2 Pre-Bid Meeting on May 21, 1998.

Questions submitted by planholders that were not specifically addressed in this Addendum No. 1 are answered in the Contract Documents.

If you have any questions, please contact John McCullough of TDX Construction Corporation at (212) 679-0031.

END OF ADDENDUM NO. 1



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Meeting Report

Project **BARUCH ACADEMIC COMPLEX** Project No **1063-01**
Construction of New Facility - Site B
CUNY #BA-104-85
DASNY #6500 1802 3145

Place **TDX SITE OFFICE, 137 E. 25th ST., NYC** Date **5/21/98**

With See Attached Attendance Sheet

Summary

PRE-BID CONFERENCE-GENERAL CONSTRUCTION #2 (CONTRACT #16)

ITEM

1.0 PROJECT OVERVIEW

1.1 T. Tilleli of TDX provided an overview of the project and introduced representatives from TDX, DASNY and KPF. He noted the following items:

- General Construction #2 is one of 13 prime contracts on the project.
- This is a Dormitory Authority project and TDX will perform as DASNY's representative.

2.0 PROJECT REQUIREMENTS

2.1 T. Tilleli summarized the following items included in the documents for this project:

- Each contractor is responsible for piling the trash.
- Sidewalk trailers will not be permitted. Shanties will be allowed within the building.
- TDX will provide a materials hoist and personnel hoist. There will be a charge for using the materials hoist.
- Storage space will be available but must be coordinated with TDX.
- TDX will provide 24 hours security at the site as per Building Code requirements. However, this does not cover contractor's equipment.
- TDX will provide interior scaffolding as stated in the documents. Any additional scaffolding shall be provided by the contractor.

*Will Proceed in Accordance
With this Report Unless Any
Discrepancies are Brought to Our
Attention within Seven Days.*

cc: w/encl., All Attendees, K. Xanthakos, P. Logan, J. Tabaei, A. Mosellie, C. File

By **Lloyd A. Sigal**

Date **5/29/98**

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KPF

Meeting Report
ITEM

- Dewatering of pool is part of this contract.
- Temporary roof system shall be provided by this contract at all roofs and ground floor plazas.
- There is an allowance for building signage in the Form of Bid.
- There are two Alternates for flooring listed in the documents. A third Alternate will be added in an Addendum.

3.0 RESPONSES TO PLANHOLDER'S QUESTIONS

- 3.1 It was clarified that Site A is the Newman Library across the street from Site B at 141-155 East 25 Street.
- 3.2 TDX will review the CPM schedule with the list of milestone dates in the Supplemental General Requirements to confirm that they are consistent.
- 3.3 It was confirmed that this contract furnishes toilet accessories which are installed by others.
- 3.4 The Scope of Work for the streetlights will be clarified in an Addendum.
- 3.5 It was confirmed that there are early activity dates for specific items listed in the documents including but not limited to miscellaneous steel and concrete fill on metal stairs.

4.0 ADDENDUM/BID DATE

- 4.1 All bids must be received by 2:00 pm on 6/10/98 at DASNY, 1 Penn Plaza, 52nd floor. Any bids received after this time will not be considered.
- 4.2 An Addendum will be issued shortly.
- 4.3 Any questions must be faxed to J. McCullough at TDX at (212) 679-0037. Questions which are not already addressed in the Contract Documents will be responded to in an Addendum.

Note: *This meeting report is issued for general information and is not part of the Contract Documents.*

Encl.

- End of report -

Baruch College- Site "B"

Meeting: GC #2 PRE BIDDate: 5-21-98

ATTENDANCE SIGN-IN LOG

NAME	COMPANY/AGENCY	TELEPHONE NO.
1. <u>TOM TILLEY</u>	<u>TDX</u>	<u>212.679-0031</u>
2. <u>Nicholas D'AMBROSIO</u>	<u>DASNY</u>	<u>679 0031</u>
3. <u>ROBERT HARTWIG</u>	<u>KPF</u>	<u>212-977-6500</u>
4. <u>M. LAL</u>	<u>ATTRI Enterprises Inc.</u>	<u>718-486-7395</u>
5. <u>ROBERT SLOCHOVER</u>	<u>SIENKOWSKI & SUTHER</u>	<u>718 466-3300</u>
6. <u>JONATHAN HOROWITZ</u>	<u>TRATAROS</u>	<u>718-833-6070</u>
7. <u>K. LERBECK</u>	<u>AMERW CONTR</u>	<u>(718) 639-5880</u>
8. <u>G. JACOB</u>	<u>" "</u>	<u>" " "</u>
9. <u>L. KLEINMAN</u>	<u>Westmont Assoc.</u>	<u>914-472-9700</u>
10. <u>VINCENT MARINO</u>	<u>ATICE</u>	<u>718-212-9500</u>
11. <u>JOE BRUNDES</u>	<u>M/O</u>	
12. <u>BROD SWOGER</u>	<u>M/O</u>	
13. <u>JOHN McLELLAN</u>	<u>TDX</u>	<u>679-0031</u>
14. <u>WYDO SIGAL</u>	<u>KAR</u>	<u>212-977-6500</u>
15. <u>THOMAS</u>	<u>TDX</u>	<u>212-805-1414</u>
16. _____	_____	_____
17. _____	_____	_____
18. _____	_____	_____
19. _____	_____	_____
20. _____	_____	_____

Baruch Academic Complex
Baruch College – Site B
New York, New York
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SECTION 01030

ALTERNATES

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. The Contract Documents apply to the work of this section.

1.02 SUMMARY OF THE WORK OF THIS SECTION

- A. This Section specifies administrative and procedural requirements for Alternates.
- B. An Alternate is an amount proposed by Bidders and stated on the Form of Bid for certain construction activities defined in the Bidding Requirements that may be added to or deducted from Base Bid amount if the Owner decides to accept a corresponding change in either the amount of construction to be completed, or in the products, materials, equipment, systems or installations methods described in Contract Documents.
- C. Coordination: Coordinate related Work and modify or adjust adjacent Work as necessary to ensure that Work affected by each accepted Alternate is complete and fully integrated into the project.
- D. Schedule: A "Schedule of Alternates" is included in this Section. Specification Sections referenced in the Schedule contain requirements for materials and methods necessary to achieve the Work described under each Alternate.
1. Include as part of each Alternate, miscellaneous devices, accessory objects and similar items incidental to or required for a complete installation whether or not mentioned as part of the Alternate.

PART 2 – PRODUCT

(Not Applicable)

PART 3 – EXECUTION

(Not Applicable)

FORM OF BID

CONTRACT #16: GENERAL CONSTRUCTION #2
ALTERNATES

The Bidder must fill in, in ink, in the appropriate place below, the NET CHANGE to the Base Bid for the Alternate listed below.

If the work described in the Alternate does not affect the Base Bid of the Bidder, the Bidder must insert the words "NO CHANGE" in the place provided for the Alternate price. In the event the Alternate is left blank, it shall be interpreted the same as if the words "NO CHANGE" had been inserted.

The price of the Alternate shall reflect the difference in the cost of performing the work for said Alternate(s) and no subsequent claims for extra work or additional work, by reason of said Alternate, shall be considered.

Alternates are listed in their order of priority. Acceptance of Alternate prices will be made in the same order.

The description of the Alternates is located in Section 01030 – Alternates and as specified within the Contract Documents.

Submit Alternate prices indicating the difference in the Contract Sum for following Alternates:

ALTERNATE NO. 1

Substitute epoxy terrazzo flooring (TZ-1) and precast epoxy terrazzo base (TZ-1) for vinyl composite tile flooring (FL-1) and resilient base (RB-1) at classroom corridors on floors 3 through 13.

ALTERNATE NO. 2

Substitute epoxy terrazzo flooring (TZ-1) and precast epoxy terrazzo base (TZ-1) for vinyl composite tile flooring (FL-1) and resilient base (RB-1) at office corridors on floors 3 through 13.

ALTERNATE NO. 3

Substitute sheet linoleum flooring for vinyl composite tile flooring (FL-1) including but not limited to flat floor classrooms, computer labs, tutoring, game, pantry, work, storage, copy, green, costume, service lobbies and multi-purpose room.

____ Dollars (\$ _____)

Baruch Academic Complex
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Schedule of Alternates:

ALTERNATE NO. 1

Substitute epoxy terrazzo flooring (TZ-1) and precast epoxy terrazzo base (TZ-1) for vinyl composite tile flooring (FL-1) and resilient base (RB-1) at classroom corridors on floors 3 through 13.

Substitute epoxy terrazzo flooring (TZ-1) and precast epoxy terrazzo base (TZ-1) at classroom corridors on floors 3 through 13 as shown on Drawing-A-002, A-140 (interior finishes schedule), A-637 (details) and Specification Section 09420. Refer to Exhibit 1 for classroom corridor room numbers as listed on Page 01030-3

ALTERNATE NO. 2

Substitute epoxy terrazzo flooring (TZ-1) and precast epoxy terrazzo base (TZ-1) for vinyl composite tile flooring (FL-1) and resilient base (RB-1) at office corridors on floors 3 through 13.

Substitute epoxy terrazzo flooring (TZ-1) and precast epoxy terrazzo base (TZ-1) at office corridors on floors 3 through 13 as shown on Drawings A-002, A-140 (interior finishes schedule), 145 thru A-156 (finish and fixture plans), A-637 (details) and Specification Section 09420.

ALTERNATE NO. 3

Substitute sheet linoleum flooring for all vinyl composite tile flooring (FL-1) including but not limited to flat floor classrooms, computer labs, tutoring, game, pantry, work, storage, copy, green, costume, service lobbies and multi-purpose room.

Substitute sheet linoleum in flat floor classrooms, computer labs, tutoring, game, pantry, work, storage, copy, green, costume, service lobbies and multi-purpose room as shown on Drawings A-002, A-140 (interior finishes schedule), A-145 thru 156 (finish and fixture plans), and Specification Section 09665.

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EXHIBIT 1: ROOM NUMBERS FOR ALTERNATE #1

Classroom Corridor

3-110	7-110
3-111	7-111
3-112	7-112
3-113	8-110
3-114	8-111
3-170	8-112
3-171	9-110
4-110	9-111
4-111	9-112
4-112	9-113
4-113	9-114
4-114	10-110
4-205	10-111
4-206	10-112
4-207	11-110
4-208	11-111
4-209	11-112
5-110	11-113
5-111	12-110
5-112	12-111
5-130	12-112
6-110	13-110
6-111	13-111
6-112	13-112
6-113	

- End of Section -

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SECTION 02517

BITUMINOUS SET EXTERIOR PAVERS

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A. Work of this Section shall be governed by the Contract Documents. Provide materials, labor, equipment and services necessary to furnish, deliver and install all work of this Section as shown on the drawings, as specified herein and/or as required by job conditions.
- B. The Work shall include, but is not limited to the following:
 - 1. Pavers
 - a. Cobbles.
 - b. Granite.
 - 2. Preparation of substrates.
 - 3. Protection of in-place construction.
 - 4. Bituminous setting bed.
 - 5. Adhesives primers.
 - 6. Joints
 - a. Hand tight with sand.
 - 7. Portland cement hand tight joints.
 - 8. Mock-up.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 02520: Concrete sidewalks.
- B. Section 07210: Building insulation.
- C. Section 07900: Joint sealers.

1.03 QUALITY ASSURANCES

- A. Qualifications
 - 1. Installer shall be a firm who can submit documentation to show that the firm has been in business continuously for the last five (5) years and has completed projects equal or greater in size as this one.
- B. Reference Standards
 - 1. American Society for Testing and Materials (ASTM)
 - ASTM C-33 Concrete Aggregate (Sand)
 - ASTM C-136 Method of Sieve Analysis of Aggregates
 - ASTM C-150 Portland Cement

Bituminous Set Exterior Pavers
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ASTM C-615 Granite Building Stone
ASTM C-1028 Test Method for Static Coefficient of Friction
ASTM D-2028 Cutback Asphalt
ASTM D-3381 Viscosity-Graded Asphalt Cement for Pavements

2. Asphalt Institute
3. National Building Granite Association (NBGA)
4. Dimensional Stone Institute (DSI)

C. Field Constructed Mock-ups

1. Prior to installation of pavers, erect mock-ups for each pattern of pavers required to verify selections made under sample submittals. Install mock-ups using materials and same base construction including special features for expansion joints and contiguous work as indicated for final unit of Work.
2. Install at the job site prior to proceeding with the balance of the work a paving panel approximately five (5) feet square, including paving pattern, joint treatment, etc.
3. Do not proceed with the balance of the work until the panels have been accepted by all interested parties, with regards to workmanship and quality of work. Be prepared to make adjustments as directed.
4. The acceptable panels shall then be used as a level of workmanship and quality for the balance of the work.

1.04 SUBMITTALS

- A. The Samples and Certificates listed below are required to be submitted by the Contractor to the Architect, for review. An omission of an item or items does not relieve the Contractor from this responsibility, and for compliance with the Contract Documents, of which this is a part.

SAMPLES

Item No.	Quan.	Size	Description
S1	4	Actual	Paver and cobble
S2	4	6" long	Joint color

NOTARIZED CERTIFICATES OF COMPLIANCE

Item No.	Description	Standards
C1	Pavers Cobbles Granite	As specified As specified
C2	Asphaltic cement	As specified

Bituminous Set Exterior Pavers
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C3 Colored portland cement As specified

B. Shop Drawings

1. Submit shop drawings for review in accordance with the Contract Documents.
2. Shop drawings shall include plans, sections and details noting paving patterns, showing each and every paver, location and size of joints, and where pavers abut other materials.
 - a. Indicate extent of each type of paver.
3. Shop drawings shall indicate work which is to be furnished by this Section and built into the work by other trades, and the work to be provided by other Sections for support of the work provided by this Section.

- C. Product literature: Submit manufacturer's catalog cuts, literature and test data for pavers and setting means and methods.
- D. Submit qualification data for firms and persons specified in "Quality Assurance" article to demonstrate their capabilities and experience. Include list of completed projects with project names, addresses, names of Architects and Owners, and other information specified.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to the job site ready for use in the manufacturer's original and unopened containers and packaging, bearing labels as to type of materials, brand name, and manufacturer's name. Delivered materials shall be identical to the reviewed submittals.
- B. Carefully pack and load for shipment the finished pavers using reasonable and customary precautions against damage in transit. No material which may cause straining or discoloration shall be used for blocking or packaging.
- C. Upon receipt at the building site, stack pavers on timber or platforms at least 4" above the ground, taking care to prevent staining during storage. Place polyethylene or other suitable plastic film between wood and the pavers, and as an overall protective covering.
- D. Aggregate and sand: Protect from contamination from dirt and other foreign materials. Perishable materials shall be properly protected and stored in watertight structures, or covered with waterproof tarpaulins.
- E. Any paver delivered to the job site which exhibits flaws, imperfections, dimensional errors, improper tolerances, or is not considered acceptable will be subject to rejection, and such pieces shall be replaced promptly so as not to cause job delay.

1.06 JOB CONDITIONS

A. Environmental Restrictions

1. Installation of the pavers in the hot bituminous setting bed shall not be executed if the ambient temperature is 40 degrees F. and falling or there is a threat or forecast for inclement weather conditions (rain, snow, drizzle, sleet, or wind-chill frost).
2. No paver shall be installed which exhibits frost or snow on its surfaces, or under other environmental or job conditions.
3. The mortar joint treatment shall not be installed unless the ambient temperature is fifty (50) degrees F. and rising and there is no threat or forecast for inclement weather conditions, and for twenty-four (24) hours after installation to all proper curing.

- B. Establish and maintain required levels and grade elevations. Review installation procedures and coordinate paving work with other work.

PART 2 - PRODUCTS

2.01 PAVERS

A. Cobbles - Granite - Cold Springs Jet Mist (ST-1)

3/8" x 3-7/8" x 2" thick and with a thermal finish and shall be sound stock, uniform, and free from stains, cracks, seams, or defects which may impair its strength, durability or appearance.

B. Stone Pavers

1. The stone material specified herein shall be the best quality of its respective kind, of sound stock, uniform in texture, color and markings, and free from stains, cracks, seams, discolorations or defects which may impair its strength, durability, or appearance.
2. Inherent variation characteristics of the stone and the quarry from which the stone is to be obtained shall be brought to the attention of the Architect at the time the samples are submitted for acceptance and shall be subject to the review of the Architect.
3. The grain orientations of the stones in relation to the natural bed shall be the same as samples in the possession of the Architect. Grain orientation shall not vary throughout the job.
4. Pavers: Size as noted x 2 inch thick, thermal finish. Cold Springs - Jet Mist (ST-1).

2.02 BITUMINOUS SETTING BED

- A. Asphalt primer shall conform to ASTM D-2028 cut-back type.
- B. Asphalt cement shall conform to ASTM D-3381 viscosity grade AC-10 or AC-20.
- C. The fine aggregate shall be clean, hard sand with durable particles and free from adherent coatings, lumps of clay, alkali salts, and organic matter and shall be uniformly graded from "coarse" to "fine" and all passing the No. 4 sieve and meet the gradation requirements when tested

in accordance with the standard method of test for sieve or screen analysis of fine and coarse aggregate as per ASTM C-136.

- D. The dried fine aggregate shall be combined with hot asphalt cement, and the mix shall be heated to approximately 300 degrees F. at an asphalt plant. The approximate proportion of materials shall be seven (7) percent cement asphalt and ninety-three (93) percent fine aggregate. Each ton shall be apportioned by weight in the approximate ratio of 145 lbs. asphalt to 1,885 lbs. sand. The Contractor shall determine the exact proportions to produce the best possible mixture for construction of the bituminous setting bed to meet construction requirements.
 - E. Neoprene modified asphalt adhesive shall have properties of 2% neoprene, 10% fibers and 88% asphalt with a softening point of 155° F., and made and formulated specifically for this purpose.
- 2.03 JOINT FILLER
- A. Colored portland cement, mill-mixed and batched with non-fading pigments and properly proportioned in a color to be selected by the Architect.
 - B. Sand as per ASTM C-144 with 100% passing a No. 16 sieve.
 - C. Water shall be clean and free of deleterious amounts of acids, salts, alkalis, or organic materials and shall be suitable for drinking.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Study the Contract drawings and specifications with regard to the work as shown and required under this Section so as to insure its completeness.
- B. Examine surfaces and conditions to which this work is to be attached and notify the Architect if conditions or surfaces exist which are detrimental to the proper and expeditious installation of the work. Starting on the work shall imply acceptance of the surfaces and conditions to perform the work as specified.
- C. Verify dimensions taken at the job site affecting the work. Bring field dimensions which are at variance, to the attention of the Architect. Obtain decision regarding corrective measures before the start of installation.
- D. Cooperate in the coordination and scheduling of the work of this Section with the work of other Sections so as not to delay job progress.

3.02 PREPARATION

- A. Clean surfaces which are to receive the setting bed of debris and broom down to produce a clean, acceptable surface free from grease, oil or other surface materials which might retard or prevent the bonding and/or set of the mortar.
- B. Clean surfaces of each paver before setting by removing foreign matter that might impair the bedding, bonding or appearance of the work. During setting operations immediately remove dirt or setting materials in contact with exposed surfaces of the paver work.

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- C. Do not set pavers which are chipped, cracked, broken or show stains which cannot be completely removed with clean water and fiber brushes.

3.03 INSTALLATION

A. Bituminous Setting Bed (Over Cellular Glass Insulation)

1. To install the setting bed over the surface of the base, place 3/4 inch deep control bars directly over the base. If grades must be adjusted, set wood chocks under depth control bars to proper grade. Set two bars parallel to each other approximately eleven (11) feet apart to serve as guides for striking board (12 ft. long x 2 in. x 6 in. board). The depth control bars must be set carefully to bring the pavers, when laid, to proper grade.
2. Place some bituminous bed between the parallel depth control bars. Pull this bed with the striking board over these bars several times. After each passage, low porous spots must be showered with fresh bituminous material to produce smooth, firm and even setting bed. As soon as this initial panel is completed, advance the first bar to the next position in readiness for striking the next panel. Carefully fill up any depressions that remain after removing the depth control bars and wood chocks.
3. The setting bed shall be rolled with a power roller to a nominal depth of 3/4", while still hot. The thickness shall be adjusted so that when the bricks are placed, the top surface of the pavers will be at the required finished grade.
4. A coating of two (2) percent neoprene-modified asphalt adhesive shall be applied by mopping or squeegeeing or troweling over the top surface of the bituminous setting bed so as to provide a bond under the pavers. If it is troweled, the trowel shall be serrated with serrations not to exceed one-sixteenth (1/16) of an inch.

B. Installation of Pavers (Cobbles)

1. When the modified asphalt adhesive is dry to the touch, carefully place the pavers by hand in straight courses with designated joints and uniform top surface.
2. Cutting and patching of the pavers required to accommodate the work of other Sections shall be performed by mechanics under this Section using diamond edge blades.
3. Protect newly laid pavers at all times by panels of plywood on which the installer stands. These panels can be advanced as work progresses. However, the plywood protection must be kept in areas which will be subjected to continued movement of materials and equipment. These precautions must be taken in order to avoid depressions and protect paver alignment. If additional leveling of the patterns is required, and before sweeping in joint filer, roll with a power roller after sufficient heat has built up in the surface from several days of hot weather.

C. Joint Treatment

1. Hand Tight Joints

- a. When all units are in place, sweep a dry mixture of portland cement and sand over the surface until all joints are flush with the surface. Use approximately 3 or 4 parts very dry sand for each part of portland cement by volume. Hydrate and

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cure the cement by spraying with a fine mist of water until the paving becomes damp. Keep damp for 2 or 3 days. Special care shall be taken to sweep all the portland cement off the face of the pavers.

- D. It is the essence of this work that it shall meet the existing abutting sidewalks in a dead level manner so as not to cause or give the appearance of a tripping hazard.
 - E. Repair the asphalt roadway as required in conformance with city codes, regulations and agencies having jurisdiction.
- 3.04 PROTECTION & CLEANING

- A. Thoroughly clean adjacent work where it has become soiled in a careful manner to avoid scratching or other defacement. Damaged or otherwise defective work shall be cut out and replaced with new, so as to leave all work in satisfactory condition. Cut out and rework joints as required.
- B. Use reasonable means to keep the exposed pavers work clean while being laid and particularly to keep it free from mortar on exposed surfaces.
- C. Upon completion, clean excess mortar and foreign matter, in a manner recommended by the manufacturer of the paver units and the manufacturer of the cleaner. Scrub down with a bristle or fiber brush, using clear water and a detergent free of acid. After scrubbing free all excess mortar and stains, hose down thoroughly with clear water.

END OF SECTION

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SECTION 03303

CAST-IN-PLACE CONCRETE - CURBS, PADS AND TOPPING

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A. Work of this Section shall be governed by the Contract Documents. Provide material, labor, equipment and services necessary to furnish and deliver all Work of this Section as shown on the Drawings, as specified herein, and/or as required by job conditions.
- B. The work shall include, but is not limited to the following:
 - 1. Curbs.
 - 2. Equipment Pads.
 - a. Provide allowance for 10 additional concrete equipment pads at 50 SF each and 4 inches high.
 - 3. Concrete Topping.
 - a. At exterior plaza use normal weight concrete.
 - b. At roof as specified in the architectural drawings use lightweight concrete.
 - c. At all metal pan stairs and related landings provided by this contract and others (fire stairs #1 thru #16), public stair landings and mezzanine transfer corridors.

1.02 STANDARDS

- A. Except as modified by governing codes and by the Contract Documents, comply with the applicable provisions and recommendations of the following (latest edition):
 - 1. ACI 301 "Specifications for Structural Concrete for Buildings."
 - 2. ACI 302-1 "Guide for Concrete Floor and Slab Construction."
 - 3. ACI 214 "Recommended Practice for Evaluation of Strength Test Results of Concrete."
 - 4. ACI 311 "Recommended Practice for Concrete

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Inspection."

5. ACI 315 "Details and Detailing for Concrete Reinforcement."
 6. ACI 318 "Building Code Requirements for Reinforced Concrete."
 7. ACI 347 "Recommended Practice for Concrete Formwork."
 8. ACI 306 "Cold Weather Concreting."
 9. ACI 305 "Hot Weather Concreting."
 10. ACI 211.1 "Recommended Practice for Selecting Proportions for Normal Mass and Heavy Weight Concrete."
 11. ACI 304 "Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete."
 12. ACI 309 "Consolidation of Concrete."
 13. CRSI-WCRSI "Placing Reinforcing Bars."
- B. Where the language in any of the documents referred to herein is in the form of a recommendation or suggestion, such recommendations or suggestions shall be deemed to be mandatory under this Contract.

1.03 SUBMITTALS

- A. Shop Drawings
1. Submit shop details and placing drawings for reinforcing steel.
 2. Submit detailed drawings showing locations of all construction joints, curbs, depressions, sleeves and openings.
- B. Mill Tests: Furnish Architect with certified mill test reports for cement, reinforcement and welded wire fabric.
- C. Certificates:
1. Certification: Written conformance to the above-mentioned requirements and the chloride ion content of the admixture shall be required from the admixture manufacturer prior to mix design review by the Architect.
 2. All products shall be VOC compliant.